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ABSTRACT

This form was published by the Pennsylvania Department of Public Instruction to assist architects with site surveys. General specifications include personnel involved, work required, and format of report. A list of information required is included. Specifications for boring procedures include equipment needs, emergency procedures, and general methods of operation. (RH)

Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
Bureau of Building Construction
Harrisburg 17126

Note to Architect: Underlined Words
are subject to variance or deletion.

GUIDE SPECIFICATIONS FOR PROPERTY, TOPOGRAPHIC AND UTILITIES SURVEY

County _____ District _____ Administrative Unit Number _____

Name of Site _____

Location of Property _____

Location Map of Property is attached _____ Deeds are Enclosed _____

GENERAL

1. Work to be done under personal supervision of an engineer or surveyor, registered in and licensed by the Commonwealth of Pennsylvania to perform such work, who shall certify under his seal the accuracy of the survey.
 2. Perform all field and record search work necessary to determine accurately:
 - a. A closed traverse of the tract showing the courses and distances of the property lines. Error of closure shall not exceed 1:10,000.
 - b. The existing physical conditions on and adjacent to the site.
- Where accessible and permissible, determine and show existing physical conditions for additional 50' outside property.
3. Survey data to be accurately plotted and drawn to scale on tracing cloth, acetate or approved equal.
 4. Sheet size: _____ by _____, with narrow margin lines 1" in from edges.
 5. Survey title block: to be located on bottom corner of sheet.
 6. Furnish School District four sets of blueprints and furnish Architect four sets of black line completed prints, by _____, 19____.
Furnish two black line check sets to Architect prior to final submission.

DATUM

1. Where available within 1/4 mile of property, relate property corners and angle points to Department of City Planning Geodetic and Topographic Survey, or, an assumed coordinate system with the value of 10,000 E and 10,000 N assigned to any convenient corner. Show coordinate grid of 200' interval on survey. Bench mark and elevations shall be referenced to City Planning datum or U. S. Geodetic datum. If no datum is available within 1 mile, assign value of 100.00' or 1000.00' to bench mark and note "assumed B. M. elevation!"

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2. Property shall be related to existing monuments, buildings, or adjacent reference points by dimensions.

INFORMATION REQUIRED

1. Title of survey, property location, scale, a small scale north point (show grid and magnetic north point), bench mark datum, certification and date.
2. Tract property boundary lines, courses and distances. Furnish a written explanation, or reconcile any discrepancy (if any) between the survey and the recorded legal description of the property. Calculate and show acreage.
3. Names of on site and/or abutting property owners.
4. Building lines.
5. Easements and Rights of Way. Indicate type, width and owner.
6. Names and locations of existing streets, roads or rights of way on or abutting the property. Show type and width of street or road surfacing. Show berm width and gutter line.
7. Buildings (show all floor elevations including basement), and structures; including foundations, piers, bridges, culverts, wells, cisterns, towers, etc.
8. All walls, fences, roads, drives, curbs, gutters, steps, walks, trails, paved areas, etc., indicating types of materials or surfacing.
9. On or contiguous to the property, show the locations, sizes, direction of flow, gradients, surface and invert elevations of all existing storm and sanitary sewers; the location, type, size, and ownership of all water and gas mains, manholes, valve boxes, meter boxes, hydrants, etc.; the locations of all utility poles, electric and telephone lines and fire alarm boxes. For utilities and sewers not traversing site indicate, by key plan if necessary, nearest offsite mains (storm and sanitary sewer, water, gas, telephone and electricity) giving all pertinent information as to types, sizes, inverts, ownership, source of information, including person and phone number.
10. Location of known core borings or test holes within survey area.
11. Location and outline of major existing fill and backfill areas.
12. Location of swamp or boggy areas, springs, streams and bodies of water, drains, spillways, drainage ditches, etc.
13. Limits of wooded areas. All trees (excepting locust, wild cherry or sumac) which have a trunk diameter at waist height of four inches or greater; giving approximate trunk diameter and common name of tree. For specimen trees over 18" diameter, show spot elevations taken N, S, E and W of tree at base of trunk and 10' from trunk.

14. Road elevations. Elevations shall be taken at fifty foot intervals along curbs (top and bottom), center lines of road, and in flow line of berm gutters. Elevations of curbs and road center lines shall be taken at ten foot intervals at intersections.
15. Elevations shall be taken and shown on a fifty foot grid system as well as at the top and bottom of all considerable breaks in grade whether vertical as in walls, or sloping as in terraces. Spot elevations shall also be indicated at finished grade of building corners, all walk intersections and building entrance platforms.
 - a. The plane table method may be used for establishing elevations. The plane table will be used only between points established by transit and level lines, with readings from the plane table not extending more than two hundred feet.
 - b. No stadia work will be permitted other than specified under a above.
16. Contours. In addition to elevations required, the map shall show contours at two foot vertical intervals. Show only ten foot contours on map where large areas exceed 50% slope.
17. Tolerance. All ground elevations shown shall be to nearest tenth of a foot. Permissible tolerance shall be one tenth of a foot for spot elevations and one-half the contour interval for contours.
18. Certify zoning classifications, if any, and pertinent property restrictions in force.
19. Certify the absence of, or presence, location and depth of mine openings, subsurface mine workings, or unmined coal.
20. Furnish one copy of a local or municipal survey, map or plan at suitable scale showing the plot in relation to community or city pattern and pertinent buildings, transportation systems, facilities, etc.
21. Indicate contemplated description and date of any proposed improvements to approaches or to utilities adjacent to site.
22. If permanent hubs or monuments are not existing, establish and place a concrete monument, 6" round and 30" deep with 3/8"x3" long copper dowel on top, at each corner of property or point of change in bearing.
23. Secure certification or letter from local municipal, district engineer or other qualified official indicating that road and sewer data shown on plan has been reviewed by him.
24. Surveyor or engineer shall keep all field notes and office computations in a neat and orderly manner, clearly indexed, and available for inspection and checking during course of work.

GUIDE SPECIFICATIONS FOR SUB-SURFACE INVESTIGATION

County _____ District _____ Administrative No. _____

Name of Site _____

Location of Property _____

1. SCOPE OF WORK

Borings are to be made at locations shown and to depths indicated on drawing "Core Boring Plan" dated _____, a print of which is enclosed.

It is understood that the Owner may order additional borings (up to 100% additional footage) or additional depth of boring at the average per foot unit prices quoted.

2. GENERAL

The Contractor shall provide an adequate number of drilling rigs and all other necessary drilling equipment, labor, materials and supplies for prosecuting the work in strict conformity with these specifications. The sequence of drilling shall be such as to expedite the work or as directed by the Architect.

If during the drilling of any hole, the Contractor should encounter any pipe lines or other underground utilities, he shall stop work on the hole immediately and notify the Architect. The Architect will then offset the hole, giving the amount and direction of offset.

3. LOCATION

At each point indicated on the plan, the Contractor shall set a 1-1/2" wooden square stake with top two feet above existing grade. Label stake and drill within 3' of stake. Depth of boring shall be measured from ground level at bottom of stake. Elevation of top of stakes and existing grade at stakes shall be provided for proper correlation of logs. All location work is to be done by an engineer or surveyor, registered in and licensed by the Commonwealth of Pennsylvania to perform such work, and the cost thereof shall be included in the bid price per lineal foot.

4. METHODS OF OPERATION

- (a) Pipes shall be driven through material other than rock. The samples shall be obtained by driving the sampling spoon dry. The pipes shall be not less than 3" I.D. and made with flush joints so that no collar or coupling will disturb the formation being drilled. Where the above method cannot be

used without washing, the location of the boring shall be moved and the pipe again driven.

- (b) Core Drilling in Rock shall be accomplished by drilling 3 inch holes for 2-1/8 inch rock cores. The work shall be done with standard oil hydraulic feed core drilling equipment using "NXM" core barrels and diamond or alloy bits designed to furnish complete standard cores of the size specified. Care should be exercised to operate the drill at such speeds and pressures as will insure satisfactory core recoveries, and to maintain the "NXM" core barrel in a thoroughly lubricated condition at all times. Take all precautions necessary to protect the recovered cores during the dismantling of the barrel and the removal therefrom of the core.
- (c) Wooden Boxes made of planed boards securely fastened and with a removable lid secured with hinges and screws shall be provided by the contractor for the preservation of the recovered cores. The cores shall be carefully placed in such boxes in the order in which they are recovered, and the depths of occurrences of strata shall be marked on the boxes at the proper points with water-proof paint. Like boxes shall also contain specimens of overburden to be contained in wide mouth glass jars of not less than 1/2 pint capacity, securely capped and properly labeled. The lid of the box shall be marked with the following legend:

"SERIES A"

Hole No. _____

Box No. _____ of _____ boxes for this hole.

The last line refers to the number of boxes per hole and is not related to the number of the hole. The filled boxes shall be stored by the Contractor until needed by the Owner at which time they shall be delivered.

- (d) The log of each boring, recording changes in character of soil or rock formation, shall be provided to the Architect in triplicate, and at the completion of drilling operations a plot of the log shall be provided by the Contractor. Said plot shall be drawn on tracing cloth, in ink, and shall be at the scale of 20 ft. per inch, and holes plotted in proper elevation each with the other. The log shall record the results of all test holes. Materials shall be classified immediately following the taking of samples. The log of each hole shall include the date of drilling and the elevation of ground water if encountered.

5. DETERMINATION OF PAYMENT

Payment shall be made upon satisfactory completion of all work specified. Payment shall be based upon the number of lineal feet of boring as determined from the driller's logs multiplied by the bid price per lineal foot.